

U.S. Patent Application Serial No. 10/508,956
Amendment filed February 29, 2008
Reply to OA dated December 5, 2007

REMARKS

Claims 1-37 are pending in this application. Claims 5, 8, 10-15, 24-29, and 32 are canceled herein without prejudice or disclaimer, and claims 1, 3, 4, 7, 9, 16, 30, 33 and 34 are amended. Upon entry of this amendment, claims 1-4, 6, 7, 9, 16-23, 30, 31 and 33-37 will be pending. Entry of this amendment and reconsideration of the rejections are respectfully requested.

No new matter has been introduced by this Amendment. Support for the amendments to the claims is as follows:

Support for the amendment to claim 1 can be found on page 34, lines 4-16, of the specification and claim 8.

Support for the amendment to claim 9 can be found on page 35, lines 1-12 of the specification. Further, support for the above amendment of claim 16 can be found on page 22, line 24, to page 23, line 5, of the specification.

In the amendments to claims 3 and 7, the claim has been amended from reciting "Use of .. as a material for cosmetics" to reciting --A cosmetic comprising--, for clarity. Support for the amendment to claims 3 and 7 can be found on page 10, lines 12-14, and examples 26-28 of the specification.

Support for the amendment to claim 30 can be found on page 25, line 13, to page 29, line 10, in particular in the disclosure that "Such slight hydrogenation gives an unsaturated alcohol mixture having an iodine value of about 88 to about 100, a cloud point of less than 7°C, and a conjugated diene content of 1 wt.% or less."

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Claim 9 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. (Office action paragraph no. 2)

The Examiner states that the phrase “the volatile components” has insufficient antecedent basis.

Reconsideration of the rejection is respectfully requested.

The phrase at issue is “the content of volatile components ... as measured by head space gas chromatography” This refers to a characterization of the material (the determination of a “content”) by a defined analysis method, and as such, no antecedent is required for the term “the content of volatile components.” (See, for example, the specification at page 62, line 16). The meaning of “volatile components” in this context would be well understood by one of skill in the art.

Claims 4, 6, 7, 12, 15, 26, 28 and 29 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. (Office action paragraph no. 3)

The Examiner refers to the term "derivative" in these claims.

The rejection is moot for claims 12, 15, 26, 28 and 29, which have been canceled without prejudice or disclaimer, and is overcome for claims 4, 6 and 7 by the amendments to the claims. In particular, claim 4 has been amended to recite specific derivatives disclosed in the specification on

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page 35, line 22, to page 37, line 15.

Claims 1-3 and 16 are rejected under 35 U.S.C. §102(b) as being anticipated by Weiczorek [sic] et al. (U.S. Patent No. 6,187,974). (Office action paragraph no. 6)

The Examiner refers to Wieczorek's unsaturated fatty alcohol with an iodine number of 90 to 100. The Examiner states that these are "of identical chemical composition," apparently implying that these are of identical composition to the alcohols in the mixture of claim 1, although this is not explained in detail. The Examiner then states that the cloud points of the prior art would inherently meet the limitations of claim 1.

The rejection is overcome by the amendment to claim 1. Claim 1 has been amended to incorporate the limitation of "a conjugated diene compound content of 1 wt. % or less," as supported by original claim 8. Applicant submits that this limitation is not disclosed or inherent in the Wieczorek et al. reference.

Claims 1-7 are rejected under 35 U.S.C. §103(a) as being unpatentable over Weiczorek [sic] et al. (U.S. Patent No. 6,187,974), Heck et al. (U.S. Pub. No. 2002/0037932), Heck et al. (Pub. No. 2002/0035159), and Koehler et al. (U.S. Patent No. 5,917,097), in view of Masami (JP 2001-89403). (Office action paragraph no. 10)

The Examiner states that Wieczorek fails to disclose derivatives, the use as a cosmetic, and the copper content of the zinc-type catalyst. Heck et al. '932 is cited for disclosing an unsaturated

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fatty alcohol from palm oil using a zinc-type catalyst. Heck et al. '159 is cited for disclosing an unsaturated fatty alcohol from palm nut or coconut oil using a zinc-type catalyst. The Examiner states that "it would have been obvious ... to prepare unsaturated alcohol as suggested by Weiczorek et al., Heck et al. (932), and Heck et al. (159) in view of Masami, ..." (page 7, lines 1-5, of the Office action).

Thus, the rejection is overcome by the amendment to claim 1. As noted above, claim 1 has been amended to incorporate incorporating the limitation of "a conjugated diene compound content of 1 wt. % or less," as supported by original claim 8. Applicant submits that this limitation is not disclosed or suggested in the cited references.

Claims 8-15 are rejected under 35 U.S.C. §103(a) as being unpatentable over Weiczorek [sic] et al. (U.S. Patent No. 6,187,974), Heck et al. (U.S. Pub. No. 2002/0037932), Heck et al. (Pub. No. 2002/0035159), and Koehler et al. (U.S. Patent No. 5,917,097), in view of Koehler et al. (U.S. Patent No. 5,672,781). (Office action paragraph no. 11)

The rejection is moot for claims 8 and 10-15, which have been canceled without prejudice or disclaimer. Claim 9 has been amended to depend from claim 1, which has been amended to incorporate the conjugated diene content limitation of original claim 8.

As admitted by the Examiner, Wieczorek et al. '971 fails to disclose the conjugated diene content of original claim 8, now recited in claim 1. Further, none of Heck et al. '932, Heck et al. '159 and Koehler et al. '097 discloses this conjugated diene content limitation. The Examiner cites

Koehler '781 as disclosing this limitation.

However, Koehler '781 merely teaches that alcohols show particularly high stability when a content of conjugated compound is below 6% by weight, preferably below 4.5% (see column 3, lines 5 to 10). There is no disclosure in Koehler '781 that stability would be high when the content of conjugated compound is low.

On the other hand, the present invention provides unexpected results of superior long-term light resistance of color and color stability in the presence of acidic or basic substances when the conjugated diene content is 1 wt.% or less. Applicant submits that there is evidence of these effects presented in the present specification, commensurate in scope with the present claims, and this evidence is summarized here:

The relationship between conjugated diene content and long term light resistance

As described in page 69, line 25, to page 71, line 5, of the specification, the unsaturated alcohol mixtures prepared in Example 1, 2, 4, 29, 30 and 31 were separately placed in 4 cm-diameter, 10 cm-height glass containers with a lid, exposed to sunlight outdoors for 2 months and inspected for coloring. The results are summarized below in reference Table A.

Reference Table A

	conjugated diene content	color (Hazen)	
		immediately after production	After 2-months exposure to sunlight
Example 1	6.4 wt.%	less than 10	50
Example 30	3.1 wt.%	less than 10	40
Example 29	3.0 wt.%	less than 10	40
Example 31	0.8 wt.%	less than 10	15
Example 2	0.1 wt.%	less than 10	10
Example 4	0.1 wt.%	less than 10	10

As is clear from reference Table A, coloration after 2-months exposure to sunlight is remarkably reduced when the conjugated diene content is 1 wt.% or less.

The relationship between conjugated diene content and color stability in the presence of acidic or basic substances

As described in page 60, line 11 to page 62, line 8, of the specification, to each of unsaturated alcohol mixtures prepared in Examples 1, 2, 4, 5 and 6 was added 0.1 wt.% of p-toluenesulfonic acid as an acidic substance. Each mixture was then heated for 1 hour at 150°C and observed for color (Gardner).

To each of unsaturated alcohol specimens prepared in Examples 1, 2, 4, 5 and 6 was added 0.2 wt.% of potassium hydroxide as a basic substance. The potassium hydroxide was then dissolved in each alcohol under nitrogen stream, and the solutions were observed for color (Hazen).

Reference Table B

	conjugated diene content	Color in the presence of an acidic substance (Gardner)	Color in the presence of a basic substance (Hazen)
Example 1	6.4 wt.%	5.5	180
Example 2	0.1 wt.%	3.0	30
Example 4	0.1 wt.%	2.5	25
Example 5	0.2 wt.%	3.0	30
Example 6	0.1 wt.%	4.0	60

As clear from Table B, coloration in the presence of acidic or basic substances is reduced when the conjugated diene content is 1 wt.% or less.

These effects are clearly unexpected over Koehler '781 and the other cited references.

For example, Koehler '781 merely teaches that a content of conjugated compound is preferably below 4.5%. Such disclosure is a broad teaching.

Koehler ' 781 exemplifies the compound having contents of conjugated compound from 3.2 to 4.3 % (see Examples 1,2 and 3).

However, as shown in Reference Table A above, when the conjugated diene content is even 3.1 or 3.0%, it cannot achieve the stated effect.

In contrast, when the conjugated diene content is 1 wt.% or less, coloration after 2-months exposure to sunlight is remarkably reduced and coloration in the presence of acidic or basic substances is reduced.

These effects, commensurate in scope with the conjugated diene limitation of claim 1, would be not expected from Koehler '781 or the general art. These effects are significant in view of the use

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of the present invention as a cosmetic, which requires a long storage stability (typically 3 years) in locations that are not necessarily cool and dark, and in view of the need for cosmetics to have color stability.

Applicant therefore submits that amended claim 1 and the dependent claims are not obvious over Wieczorek et al. '974, Heck et al. '932, Heck et al. '159, Koehler et al. '097, and Koehler '781, taken separately or in combination.

Claims 16-29 are rejected under 35 U.S.C. §103(a) as being unpatentable over Weiczorek [sic] et al. (U.S. Patent No. 6,187,974), Schmid et al. (U.S. Patent No. 5,276,204), Heck et al. (U.S. Pub. No. 2002/0037932), Heck et al. (Pub. No. 2002/0035159), and Koehler et al. (U.S. Patent No. 5,917,097), in view of Masami (JP 2001-89403) and Koehler et al. (U.S. Patent No. 5,672,781). (Office action paragraph no. 12)

The Examiner cites Wieczorek for disclosing a "zinc-type catalyst having a copper content," citing Example 1(d), at column 6, lines 56-62.

The rejection is moot for claims 24-29, which have been canceled without prejudice or disclaimer. The rejection of claims 16-23 is overcome by the amendments to the claims. Claim 16 has been amended to depend from claim 1, and claims 17-23 depend from claim 16.

Applicant has argued above that claim 1, due to unexpected results associated with the limitation that the conjugated diene content is 1 wt.% or less, is not obvious over the cited Wieczorek et al. '974, Heck et al. '932, Heck et al. '159, Koehler et al. '097, and Koehler '781.

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Applicant further submits that these results are unexpected over Schmid et al. '204 or Masami (JP 2001-89403).

Pending claims 16-13 are therefore unobvious over Wieczorek et al. '974, Schmid et al. '204, Heck et al. '932, Heck et al. '159, Koehler et al. '097, Masami (JP 2001-89403) and Koehler '781, taken separately or in combination.

Claims 30-37 are rejected under 35 U.S.C. §103(a) as being unpatentable over Weiczorek [sic] et al. (U.S. Patent No. 6,187,974), Schmid et al. (U.S. Patent No. 5,276,204), Heck et al. (U.S. Pub. No. 2002/0037932), Heck et al. (Pub. No. 2002/0035159), and Koehler et al. (U.S. Patent No. 5,917,097), in view of Masami (JP 2001-89403) and Koehler et al. (U.S. Patent No. 5,672,781). (Office action paragraph no. 13)

The Examiner again states that Wieczorek discloses "using a zinc-type catalyst having a copper content."

The rejection is moot for claim 32, which has been canceled without prejudice or disclaimer. The rejection of claims 30, 31 and 33-37 is overcome by the amendment to claim 30.

As amended, claim 30 comprises the step of "slightly hydrogenating the obtained liquid vegetable unsaturated alcohol mixture to give the mixture having a conjugated diene compound content of 1 wt.% or less."

As discussed above for amended claim 1, there are effects associated with the limitation that the "conjugated diene content is 1 wt.% or less," and these effects are unexpected over Wieczorek

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et al. '974, Heck et al. '932, Heck et al. '159, Koehler et al. '097, Koehler '781, Schmid et al. '204 and Masami (JP 2001-89403). The above "unexpected results" arguments are also applicable to claim 30.

Applicant therefore submits that claims 30, 31 and 33-37 are not obvious over Wieczorek et al. '974, Schmid et al. '204, Heck et al. '932, Heck et al. '159, Koehler et al. '097, Masami (JP 2001-89403) and Koehler '781, taken separately or in combination.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the applicants' undersigned agent at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, the applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,
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